SSD-6038

Revised Annual Review



Energy NSW

Dewhurst Gas Exploration Pilot Expansion

Table of Contents

1.	Title Page	4
2.	Description of Development	5
2.1	Dewhurst 13-18H Pilot	5
2.2	Dewhurst 26-31 Pilot	5
3.	Review of monitoring results and complaints	8
3.1	Noise	8
3.2	Blasting	8
3.3	Air Quality	8
3.4	Biodiversity	10
3.5	Heritage	
3.6	Complaints	
3.7	Water and Waste Management	
3.8	Rehabilitation	
4.	Compliance Statement	
4.1	Independent Audit	
4.2	Incidents and non compliances	
5.	Identification Trends Discrepancies between predicted and actual impacts	
6. 7.	Continuing or proposed measures to improve the development environmental performance	
	ndix 1 – Air Monitoring Data	
List	of Figures	
Figur	e 1: Aerial photograph of Dewhurst 26-31 Pilot	6
Figur	e 2: Santos Infrastructure Narrabri Gas Field	7
Figur	e 3: Dewhurst 28 – Balance tank	13
Figur	e 4: Dewhurst 26	14
Figur	e 5: Dewhurst 27	14
Figur	e 6: Dewhurst 28	15
Figur	e 7: Dewhurst 29	15
Figur	e 8: Dewhurst 30	16
Eigur	o Q. Dowhurst 21	16

List of Tables

Table 1: Long term criteria for particulate matter	9
Table 2: Short term criteria for particulate matter	9
Table 3: Long term criteria for deposited dust	9
Table 4: Summary table for environmental aspects	11
Table 5: Water Licence Data for the year 1 January 2016 to 31 December 2016	12
Table 6: Statement of Compliance	17
Table 7: Independent Audit Recommendations	18
Table 8: HiVol Air Samplers – TSP and PM10	20
Table 9: Deposited Dust	2 3

1. Title Page

This report has been drafted to address the requirements of Condition 4 of Schedule 5 of SSD-6038 – the Dewhurst Gas Exploration Pilot Expansion (the approval).

The Bibblewindi Gas Exploration Pilot Expansion (SSD-5934) was granted on the same day as SSD-6038. No works have been undertaken to commence that development. As such, the requirement to provide an Annual Review for the Bibblewindi Gas Exploration Pilot Expansion has not been triggered.

The report's format mirrors the sections of the approval, but also includes relevant information from the Annual Review Guideline *Post Approval Requirements for State Significant Mining Developments October* 2015.

Name of Operation	Dewhurst Gas Exploration Pilot Expansion
Name of Operator	Santos NSW (Eastern) Pty Ltd
Development consent / project approval#	SSD-6038
Name of holder of development consent	Santos NSW (Eastern) Pty Ltd
Petroleum Exploration Licence #	PEL238
Name of holder of Petroleum Exploration Licence	Santos NSW Pty Ltd (ACN 094 269 780) and
	Energy Australia Narrabri Gas Pty Ltd (ACN 147 609 729)
Water licence #	90AL832238
Name of holder of water licence	Santos NSW (Eastern) Pty Ltd
Annual Review start date	1 January 2016
Annual Review end date	31 December 2016
I, Todd Dunn, certify that this audit report is a true and acc	curate record of the compliance status of the
Dewhurst Gas Exploration Pilot Expansion for the period 1	
am authorised to make this statement on behalf of Santos	•
Name and Title of authorised reporting officer	Todd Dunn, NSW Operations Manager
Signature and date	30/03/2017

2. Description of Development

This section addresses the following requirements:

SSD approval: Schedule 5 Condition 4 (a): describe the development (including any rehabilitation) that was carried out in the past calendar year and the development that is proposed to be carried over the coming year.

Guidelines: Provides information sought under Sections 2 & 4 of the Guidelines

Contact details for key personnel responsible for environmental management of the operation: Ron Anderson, Principal Advisor Compliance. ron.anderson@santos.com 02 6792 9061

A Development Consent (DC) was issued by the Planning Assessment Commission on 18 July 2014 for the Dewhurst 13-18H Extension and the Dewhurst 30 and 31 Extension.

The development includes the operation of the Dewhurst 13-18H Pilot and the Dewhurst 26-29 Pilot, including the Dewhurst 13-18H Extension and Dewhurst 30 and 31 Extension.

The Dewhurst 13-18H Extension involves the drilling and operation of an additional two horizontal wells at each of Dewhurst 16H, Dewhurst 17H and Dewhurst 18H pilot wells.

The Dewhurst 30 and 31 Extension involves the drilling and operation of two additional wells at the development, namely Dewhurst 30 and Dewhurst 31.

2.1 Dewhurst 13-18H Pilot

The Dewhurst 13-18 Pilot did not operate during the reporting period. The drilling of the additional two horizontal wells at each of the Dewhurst 16H, 17H and Dewhurst 18H has not occurred.

There was no land disturbance at any of the sites in the Pilot during the reporting period. No water was extracted from any of the wells.

The only activities at the Dewhurst 13-18 Pilot by Santos operator/maintainers included undertaking their routine surveillance on the wells, general maintenance, inspection and monitoring of wellhead, weed management on the leases, the undertaking of quarterly monitoring under the Leak Detection and Repair Program and Santos environmental staff taking water samples from the shallow aquifer monitoring bores at Dewhurst 14, and their routine inspections.

2.2 Dewhurst 26-31 Pilot

The Dewhurst 26-29 Pilot wells were drilled in 2014.

The drilling of the additional two wells in the Pilot (Dewhurst 30 &31) has not yet been undertaken. The leases were cleared and prepared in 2014 as reported in the 2014 and subsequent Annual Reviews.

Partial rehabilitation of each of the sites was undertaken by spreading stockpiled topsoil and mulch over the bare earth prior to the well sites being commissioned.

The Dewhurst 26-29 Pilot (the Pilot) consists of two vertical wells at Dewhurst 26 and Dewhurst 28. Three horizontal wells originating each at Dewhurst 27 and Dewhurst 29, and drilled into three separate coal seams intersect with the Dewhurst 26 and Dewhurst 28 wells respectively. All gas produced in the Pilot is piped to the Dewhurst 28 well lease and flared. All water produced in the Pilot is piped to a fully bunded balance tank at Dewhurst 28 before being pumped via the approved Southern flowline to a 5ML tank at

Bibblewindi where it is mixed with water from other Pilots. From there the water is transferred via an underground flowline to the Leewood Water Management facility for storage prior to treatment. There is no release to waters from this facility, or from any section of the pipeline between the Dewhurst South Pilot and Leewood.

The Dewhurst 26-29 Pilot began operating for the first time on 19 January 2015, following completion of interference testing.

For the reporting year, the Pilot operated continuously after becoming operational again on 12 January 2016 following a workover of the Dewhurst 28 and Dewhurst 29 wells in November and December 2015.

Prior to the workovers, topsoil and mulch were scraped back at each site and stockpiled for later use. At the completion of the workover, these materials were re-placed on their former locations.



Figure 1: Aerial photograph of Dewhurst 26-31 Pilot

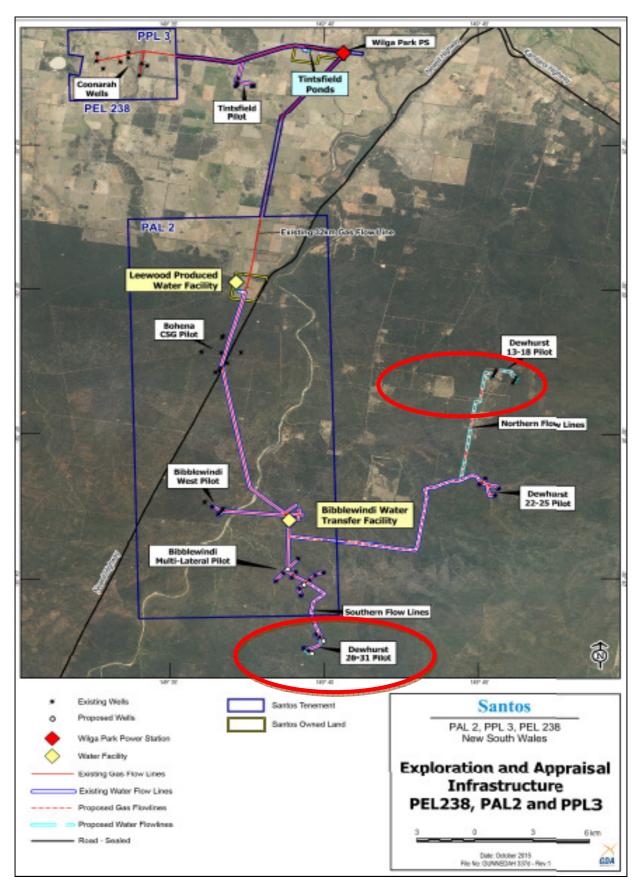


Figure 2: Santos Infrastructure Narrabri Gas Field

3. Review of monitoring results and complaints

This section addresses the following requirements:

SSD approval: Schedule 5 Condition 4 (b)

- I. Include a comprehensive review of monitoring results and complaints records of the development over the past calendar year, which includes a comparison of these results against the: relevant statutory requirements, limits, or performance measures/ criteria
- II. requirements of any plan or program required under this consent
- III. monitoring results of previous years and
- IV. relevant predictions in the EIS

Guideline: Section 6 Environmental performance, Section 7 Water Management, and Section 8 Rehabilitation

3.1 Noise

No construction activities were undertaken in 2016, so the only applicable noise limits are those relating to operational noise.

The conditions of the SSD approval, PEL 238 and of EPL 20350 set noise limits at any residence or sensitive receiver of 35dB (A) for operational noise. The nearest sensitive receiver is over 10 km away from the site.

The approved Project Environmental Management Plan (PEMP) lists attended monitoring to undertaken at sensitive receivers in instances of noise complaints. Since no noise complaints have been received, no monitoring at any sensitive receiver has been required.

Santos operator/maintainers carry out daily inspections of sites as part of their routine duties. Environmental advisers undertake inspections of the sites to determine if any additional noise mitigation measures are required. These formal inspections are scheduled in the compliance database ComTrack for 6 monthly compliance checks. However environmental advisers are on site regularly, and deal with any environmental issues at the time of identification. No noise related matters have required attention during the reporting period.

The EIS predicted no impact at any sensitive receiver from the Dewhurst 26 - 29 pilot. As discussed in the introduction, the Dewhurst 13-18 Pilot did not operate during 2016.

3.2 Blasting

Not applicable.

3.3 Air Quality

The EPL 20350 does not impose any air quality limits. It has three conditions relating to measures to be taken to prevent or minimise dust generation.

The PEL 238 approval does not include any air quality conditions, but has a general requirement to implement all reasonably practicable measures to prevent and/or minimise harm to the environment.

To avoid the generation of dust, all trafficable areas at the well sites have been covered with blue metal, and the sections of partial rehabilitation have had mulch applied across the surface.

The Dewhurst 30 and 31 sites have had a polymer spray applied across the bare surfaces of the site primarily for erosion and sediment control, but this product also binds the surface to prevent dust generation.

SSD 6038 sets long and short term criteria limits for particulate matter, as well as long term criteria for deposited dust. This approval sets the limits at any residence on privately owned land, the nearest of which is 10 km away. Monitoring is conducted at the Dewhurst 26 site, and as shown in the tables below, that even within an operational site, the monitoring results are significantly below the limits in the approval.

Table 1: Long term criteria for particulate matter

Pollutant	Averaging period	Criterion	Average Result (full year)
Total Suspended particulate (TSP) matter	Annual	90 μg/m³	16.0 μg/m ³
Particulate matter <10µm(PM ₁₀)	Annual	30 μg/m ³	8.5 μg/m ³

Table 2: Short term criteria for particulate matter

Pollutant	Averaging period	Criterion	Maximum Res (full year)	sult
Particulate matter <10µm(PM ₁₀)	24 hour	50 μg/m ³	34.6 μg/m ³	

Table 3: Long term criteria for deposited dust

Pollutant	Averaging period	Maximum increase in Total Deposited Dust level	Maximum Total Deposited Dust level	Maximum results full year (Increase/ total)
Deposited dust	Annual	2 g/m ² /month	4 g/m ^{2/} month	0.8/1.9 g/m ² /month

These results generally represent a slight reduction in the values listed in the Annual Review document submitted in 2016 for the 2015 calendar year.

The PEMP lists the monitoring frequency for the short and long term particulate matter standards to be conducted every six days. The 2016 full monitoring record is shown in Appendix 1. The measures as described in the 2016 Annual Review to improve the reliability of the monitoring equipment have led to improved alignment with the six day sampling regime. The changes included the purchase of two new high volume air samplers, and hard wiring the power source to the wellsite generator. This negated the need for a portable generator to be used to provide power to the sampling equipment.

The data clearly shows the operation being managed in such a way as to be below the maximum particulate levels.

The PEMP also describes measures to be followed by Santos in order to mitigate against air quality deterioration. These include dust minimisation measures as well as greenhouse gas mitigation measures.

Regular inspections are carried out by EPA staff for leak detection and repair, as well as general site inspections. No reportable leaks were identified by the Santos program or the EPA program during the reporting period. Santos is required to report on the Leak Detection and Repair Program in its annual return for EPL 20350, which was submitted on June 29, 2016.

3.4 Biodiversity

The EPL 20350 contains no biodiversity conditions.

The PEL 238 approval does not contain any specific biodiversity conditions.

SSD 6038 sets performance standards for groundwater dependent ecosystems (negligible environmental consequences) and threatened species, threatened populations, or endangered ecological communities (minor environmental consequences). Santos engaged ecologists (EcoLogical Australia) to conduct autumn and spring surveys in 2016, who provided the following conclusion and recommendation in their report *Dewhurst 26 – 31 Biodiversity Management Plan (BMP) Annual Monitoring Report 2016*.

'This report presents only the first two years data collected for the project, and because the Dewhurst 13-18H Pilot and Bibblewindi Multi-lateral Pilot have not yet been constructed, only four of the proposed 10 monitoring sites have been established. Therefore, the conclusions that can be drawn from the results of the statistical analyses are limited.

The initial data suggests that there is little difference between the 'impact' and 'control ' sites in terms of fauna density or composition, flora structure or condition and vertebrate pest populations. Although there have been some significant changes apparent between monitoring years (e.g. exotic species cover, native plant species diversity), these changes are consistent across site types, and as such can be considered unrelated to the construction and operation of the wells.

As per the BMP for the project, monitoring at Dewhurst 26-31 is to continue in autumn and spring for a further year. Further comparison between impact and control sites over multiple years will be conducted following the 2017 monitoring, which will allow for more meaningful analysis of trends. A review of the BMP will be undertaken at the end of the three year operational period for the pilots (end of 2017).

Should works be scheduled to commence at either Dewhurst 13-18H or the Bibblewindi Multi-lateral Pilots, then baseline monitoring should commence at these locations and continue for a three year period.'

The report noted that there was no statistically significant difference in native cover in any structural layer between the 'impact' and 'control' sites, and no significant changes in native cover between years of monitoring. They noted that there was a significant increase in native plant species diversity between 2015 and 2016, which they attribute to be likely as a result of the higher rainfall in 2016 preceding the surveys.

Exotic plant cover has increased from 0% at all sites in 2015 to 4% at Dewhurst 26 'impact', 2% at Dewhurst 26 'control' and 2% at Dewhurst 31 'impact' in 2016 (remaining at 0% at Dewhurst 31 'control'). However, they noted that exotic cover at all sites remains below the threshold of 5% stated in this performance measure.

Six new weed species were recorded on the monitoring sites in 2016 that did not occur in 2015. EcoLogical Australia opined that this is likely due to the unusually wet conditions experienced prior to the monitoring surveys. Regardless, the surveys as part of the 2017 monitoring program will determine whether these new weed species persist at the sites, in which case targeted weed control may be required.

For woodland birds, they reported 'no significant difference is bird species richness or species composition between 'impact' and 'control' sites. A similar comment was made for microbats.

For vertebrate pests, they reported 'The low number of feral animals recorded across all four sites during 2015 and 2016 monitoring events meant that no statistical analysis was possible. However, there did not appear to be any discernible differences between pest population size and activity between the 'impact' and 'control' sites.

3.5 Heritage

Not applicable. There were no new ground disturbances in 2016.

Table 4: Summary table for environmental aspects

Aspect	Approval criteria	Performance	Trend/ key management implications	Implemented/ proposed management actions
Noise	35dB (A) at noise sensitive location	Nearest residence 10km away – no impact	Nil	Continued implementation of PEMP
Blasting	N/A	N/A	N/A	N/A
Air Quality	Refer to the tables in section 3.3	Well below maximum limits	Reduced dust levels indicated by monitoring results	Continued implementation of PEMP
Biodiversity	Negligible impact of Groundwater Dependent Ecosystems (GDE), and minor on threatened populations	No impact detected to date	Insufficient data for ecologist to advise	Continuation of autumn and spring surveys
Heritage	N/A - no new disturbances	N/A - no new disturbances	N/A - no new disturbances	N/A - no new disturbances

3.6 Complaints

No complaints regarding the development were made directly or referred to Santos in the reporting period.

3.7 Water and Waste Management

Santos extracts saline water from the coal seams in order to collect the gas entrained in the coal cleats. All water produced in the Dewhurst 26 to 29 pilot is piped to a bunded balance tank at Dewhurst 28 before being transferred via the approved Southern flowline to Bibblewindi and onto the Leewood Water Management facility. The bunded balance tank at Dewhurst 28 is on a compacted base, with a HDPE liner. Santos has a vacuum truck on 24 hour standby in the event of any spill. The tank levels are monitored by SCADA and the instrumentation is equipped with high level and low level alarms to warn of abnormal tank operating levels. The trip system linked to the tank operating levels, allows the wells to be shutdown automatically on high level and valves to operate automatically at pre-set levels to minimise the risk of spills or overflow. These valves can also be operated manually by on site personnel.

Table 5: Water Licence Data for the year 1 January 2016 to 31 December 2016

Water Licence #	Water Sharing Plan	Entitlement	Passive Take/inflows	Active pumping	TOTAL
90AL832238	NSW Murray Darling Basin Porous Rock Groundwater Sources	600ML	Nil	87.3 ML	87.3 ML

Condition 22 of Schedule 3 requires reporting on waste management and minimisation in the Annual Review. The only waste generated at the development is produced water. Given the gas extraction requires the de-watering of the wells, it is not possible to minimise the extraction of this water. However, Santos has constructed a reverse osmosis water treatment plant at Leewood so that the produced water can be treated to a standard capable of being beneficially re-used. A court challenge to the validity of the planning approval prevented Santos from undertaking irrigation activities during the reporting period. An initial decision was granted in Santos' favour, which was subsequently appealed. In March 2017, the Court of Appeal dismissed that appeal, upholding the decision to grant approval. Under the conditions of the approval, Santos was required to provide an Irrigation Management Plan to Division of Resources and Energy for approval in consultation with the Environment Protection Authority and DPI Water. That plan is currently being assessed by those government agencies.

The beneficial re-uses include crop irrigation, dust suppression and firefighting.

No hazardous wastes were generated at the development for the reporting period.



Figure 3: Dewhurst 28 - Balance tank

3.8 Rehabilitation

No additional rehabilitation was undertaken during 2016. The partial rehabilitation works described in the Annual Review submitted in 2016 were maintained in accordance with Santos' weed management program and the site specific erosion and sediment control plans. As described in the section 2.2, the partial rehabilitation works at Dewhurst 28 and Dewhurst 29 were disturbed in November 2015, in preparation for the workover of those wells. At the completion, the topsoil was re-applied to the area disturbed.

Each of the six sites are located within a fenced enclosure of 1 Ha in size, and the standard practice is that once the rig has left the site and surface infrastructure has been installed, partial rehabilitation occurs. A fenced area of approximately 30m x 30m is retained for the well site equipment. A blue metal access track around the perimeter of this enclosure separates the rehabilitation from the well facilities. The revegetation occurs naturally from the seed bank in the removed topsoil.

The sites are monitored for weeds, and when necessary treated as per the weed management program. The only relevant performance criterion in Table 4-13 of the EIS for the Development relates to weed management i.e. weeds to not dominate after disturbance or rainfall. The active weed management program in place restricts weed populations; however as seen by the photos, the dominant vegetation at all sites is as a result of natural regeneration with native species. All other performance criteria in Table 4-13 of the EIS are not triggered until after the sites are abandoned, or rehabilitation is completed. No wells have been abandoned, and although Santos has undertaken partial rehabilitation of the sites, the rehabilitation work has not been completed. As discussed in the first paragraph of this section, it is sometimes necessary to re-clear partially rehabilitated areas for operational needs such as setting up for workover rigs.



Figure 4: Dewhurst 26



Figure 5: Dewhurst 27



Figure 6: Dewhurst 28



Figure 7: Dewhurst 29



Figure 8: Dewhurst 30

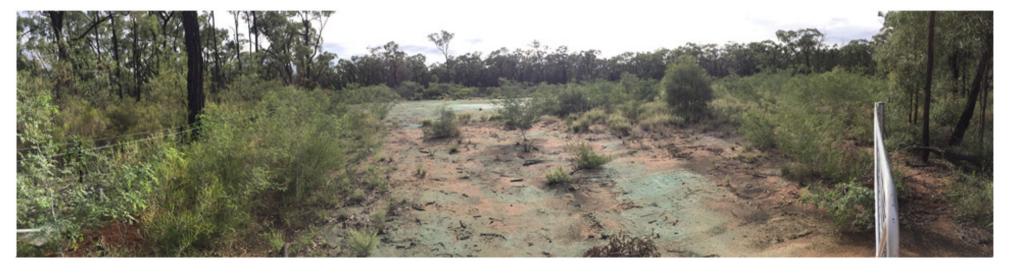


Figure 9: Dewhurst 31

4. Compliance Statement

This section addresses the following requirements:

SSD approval: Schedule 5 Condition 4 (c) *Identify any non-compliance over the past calendar year, and describe what actions were (or are being) taken to address non compliances*

Guidelines: Section 10 Independent Audit and Section 11 Incidents and non-compliances.

The relevant approvals for the development are:

- SSD 6038 approval;
- PEL 238;
- EPL 20350;
- Approval Dewhurst 26-29 Pilot (DRE) 16 August 2013.

Under the approval of SSD 6038 Schedule 5, condition 8, Santos was required to engage an approved Independent Environmental Auditor to conduct a full audit of the development. Lodestone Environmental Services was approved by the Department of Planning and Environment (DPE) to undertake the audit, and did so for the period 4 November 2014 to 14 November 2015. That report was submitted to the Secretary and accepted.

Table 6: Statement of Compliance

Were all conditions of the relevant approval complied with as they relate to the development in 2016			
SSD 6038	Yes		
PEL 238	Yes		
EPL 20350	Yes		
Approval Dewhurst 26-29 Pilot	Yes		

4.1 Independent Audit

Lodestone Environmental Services undertook an independent environmental audit for the period 4 November 2014 to 14 November 2015. The final report was submitted to DPE on 28 April 2016, and accepted on 21 June 2016.

Santos is currently implementing all four recommendations which in summary are:

Table 7: Independent Audit Recommendations

Recommendation	Action
Review existing environmental management plans, and consider developing field guides and fact sheets for staff and contractors in the field.	Review completed with the following field guides developed: A local weed handbook has been developed to provide a ready reckoner for all field staff regarding weed management; Checklists have been developed for fortnightly proactive tasks in optimising environmental performance – for example spill prevention.
In future reviews of the PEMP, expand to include other environmental issues.	An additional sub-plan was added to the PEMP in 2016 — Weed Management. This was communicated to DPE on 28 July 2016.
Continue ongoing regular inspection program.	Santos has continued with the regular inspection program which is tracked through the compliance database ComTrack. Inspections are recorded in the database Audit and Inspection Manager (AIM)
Ensure there is a continued focus on administrative and reporting requirements.	All key dates for administrative and reporting requirements are tracked through ComTrack.

The next Independent Environmental Audit is scheduled in ComTrack to be completed by 4 November 2018.

4.2 Incidents and non compliances

There were no reportable environmental incidents for the development during the reporting period, nor were there any exceedances of any limits in any approval.

5. Identification Trends

All monitoring complies with the relevant approval limits. This is also discussed in the relevant sections of this report.

The air quality monitoring results are significantly below the limits in the approval.

The EcoLogical Biodiversity Assessment did not identify any detrimental impacts from the development.

The Leak Detection and Repair Program conducted by Santos and spot checked by the EPA shows all equipment is operating in good condition.

6. Discrepancies between predicted and actual impacts

No discrepancies have been detected. The project area is very small, and is isolated from any sensitive receiver or ecological community.

7. Continuing or proposed measures to improve the development environmental performance

The Leewood water treatment facility, when operational, will convert saline water to water suitable for a range of uses such as agricultural irrigation, dust suppression and firefighting. The plant is currently being constructed and is scheduled to be ready for use by July 2016. The water from the Dewhurst 26-29 Pilot is piped to Leewood, and will be treated in this facility.

Santos will continue with its leak detection and repair program to minimise gas loss from its infrastructure. Through the use of the latest technology, and the detailed knowledge of operational infrastructure, Santos will ensure that fugitive emissions or losses are minimised.

END OF REPORT

Appendix 1 – Air Monitoring Data

Table 8: HiVol Air Samplers – TSP and PM10

Sampling Period	Pollutant		Certificate of Analysis	Field Notes
	Total Suspended Particulate (µg/m³) matter	PM10 (μg/m³)	(ALS) No.	
12/01/2016	27.6	15.9	EN1600453	
19/01/2016	23.6	12	EN1600453	
25/01/2016	13.2	9.9	EN1600453	
31/01/2016				Generator turned on however unit did not operate on dust (HiVoI) units
06/02/2016	24	10.5	EN1600622	
12/02/2016	27.4	16.5	EN1600626	
18/02/2016	42	24.4	EN1600711	
24/02/2016	64.3	32.2	EN1601135	Generator broke down after 8hours
01/03/2016				Generator not repaired - no available power source for sampling to be conducted
08/03/2016	25.5	14.1	EN1601136	Started a day late due to generator issues
13/03/2016	21.9	14.5	EN1601134	
19/03/2016		12.2	EN1601143	TSP HiVol - unit did not run, unable to determine issue
25/03/2016		10.1	EN1601377	TSP HiVol - unit did not run, LearSiegler unit scheduled to be replaced with EcoTech unit
31/03/2016				Installation and calibration of new EcoTech HiVol (dust) units
02/04/2016	9	4.3	EN1601377	
08/04/2016	13.5	8.8	EN1601379	
14/04/2016	17.3	7.8	EN1601707	
20/04/2016	14.6	9.8	EN1601707	

24/04/2016	24.8	13.1	EN1601707	Sample date changed to re-align sampling with EQUIS SPM following HiVol unit installations
30/04/2016	13.4	7.5	EN1601707	
05/05/2016	9.4	5.1	EN1602094	
12/05/2016	9.2	4.3	EN1602094	
18/05/2016	9.8	4.2	EN1602094	
24/05/2016				(HiVol) Units did not run due to well (power source) trip.
30/05/2016	5.8	1.8	EN1602094	
05/06/2016	1.5	<0.1	EN1602506	
11/06/2016	1.4	0.4	EN1602506	
17/06/2016	10.3	5	EN1602506	
23/06/2016	3.5	0.1	EN1602506	
29/06/2016	2.1	1.5	EN1602506	
05/07/2016	4.8	4.4	EN1602762	HiVol units ran for 48 hours collected 13/07/2016
11/07/2016	4.8	4.4		see above (HiVol units ran for 48 hours)
17/07/2016	2.5	1.2	EN1602762	
23/07/2016	8.3	4.7	EN1602762	
29/07/2016	2.8	1.9	EN1602762	
04/08/2016	3.5	2.3	EN1602982	
10/08/2016	3.4	2	EN1602982	
16/08/2016	5.4	2.9	EN1602982	
22/08/2016	5.5	3.5	EN1603098	
28/08/2016	3.2	0.1	EN1603191	
03/09/2016	4.9	<0.1	EN1603196	
09/09/2016	15.6	2.9	EN1603278	
15/09/2016	3	0.1	EN1603359	
21/09/2016	2.5	0.1	EN1603461	

27/22/22/5	7.3	2.9	EN1603646	
27/09/2016				
03/10/2016	4.4	<0.1	EN1603646	
09/10/2016	13.8	3.9	EN1603679	
15/10/2016	18.1	5.4	EN1604001	
21/10/2016	16.3	7.8	EN1603964	
27/10/2016	22.8	11.1	EN1604035	
02/11/2016	11.8	3.5	EN1604133	
08/11/2016	39.9	18	EN1604657	
14/11/2016	16.9	6.7	EN1604657	
20/11/2016	20	7.2	EN1604656	
26/11/2016	38.7	21.3	EN1604657	
02/12/2016	41.1	19.5	EN1700160	
				(HiVol) Units did not run due to well (power
08/12/2016				source) trip.
14/12/2016	70.4	34.6	EN1700161	
20/12/2016	23.8	13	EN1700162	
26/12/2016	15.4	8	EN1700163	

Table 9: Deposited Dust

		Period	ALS COA number	Total deposited dust level (g/m²/month) (Total insoluble	Monthly Change (g/m2/month)
				matter) (Max 4 g/m²/month)	
Deposited Dust	January	30/12/2015 - 02/02/2016	EN1600581	1.1	
	February	02/02/2016 - 01/03/2016	EN1600839	0.5	0.6
	March	01/03/2016 - 04/04/2016	EN1601378	0.7	-0.2
	April	04/04/2016 - 02/05/2016	EN1601706	0.7	0
	May	02/05/2016 - 01/06/2016	EN1602094	0.5	0.2
	June	01/06/2016 - 01/07/2016	EN1602506	1.9	-1.4
	July	01/07/2016 - 01/08/2016	EN1602762	1.1	0.8
	August	01/08/2016 - 31/08/2016	EN1603191	0.5	0.6
	September	01/09/2016 - 29/09/2016	EN1603646	0.4	0.1
	October	29/09/2016 - 01/11/2016	EN1604036	0.6	-0.2
	November	01/11/2016 - 02/12/2016	EN1604657	0.4	0.2
	December	02/12/2016 - 04/01/2017	EN1700183	1.1	-0.7

NOTE: Deposited dust is assessed as insoluble solids as defined by Standards Australia, AS/NZS 3580.10.1:2003: Methods for Sampling and Analysis of Ambient Air – Determination of Particulate Matter – Deposited Dust – Gravimetric Method.